

REMARKS

Applicant appreciates the continued thorough examination of the present application by the Examiner, and the indication in the present Official Action that all of the earlier grounds of rejection have been withdrawn in view of Applicant's earlier arguments. In response, independent Claim 1 has been amended to ensure that no reasonable interpretation thereof could apply to the newly cited reference, U.S. Patent 5,813,753 to Vriens et al. Accordingly, Applicant respectfully requests allowance of the present application for the reasons that will now be described.

Claim 1 Is Patentable Over Vriens et al.

Claim 1 has been extensively amended by incorporating the recitations of Claims 2 and 31 therein. Applicant wishes to note that the incorporation of non-elected Claim 31 into Claim 1 was necessitated by the Examiner's interpretation of Vriens et al.'s cup-filling epoxy material as reading on the claimed "flexible film that includes therein an optical element". Accordingly, Applicant respectfully requests entry of this amendment, examination of the amended claims and allowance thereof for the reasons that will now be described.

In particular, amended Claim 1 now includes four different elements:

- (1) a substrate having a face that includes a cavity therein;
- (2) a flexible film that includes therein an optical element, wherein the flexible film extends onto, and is attached to, the face beyond the cavity and the optical element overlies the cavity;
- (3) a semiconductor light emitting element in the cavity and configured to emit light through the optical element; and
- (4) an optical coupling media in the cavity between the optical element and the semiconductor light emitting element.

Claims 1 and 2 stand rejected under 35 USC §102(b) over Vriens et al. The Detailed Action contends that element **55** of Vriens et al. corresponds to the claimed flexible film. However, element **55** is a cup-filling epoxy, as clearly noted at Column 7, lines 7-8 of Vriens et al. This epoxy **55** corresponds to element **25** of Vriens et al.'s remaining embodiments, that is described at Vriens et al. Column 3, lines 31-42:

The cup is filled with transparent material **25**, preferably a UV/blue light resistant epoxy such as a cycloaliphatic epoxy, through which the phosphor **24** is mixed homogeneously. The product of phosphor grain density and grain size should be made high enough to ensure that most of the UV/blue light is converted to visible light. To prevent UV/blue light which is not absorbed by the phosphor grains from exiting into air, a

small flat glass plate **26** can be placed on the top of the cup-shaped header. Edge light which is not absorbed by the phosphor grains **24** will be reflected by mirror **23** back for another opportunity to be absorbed. Thus, the efficiency of the device is enhanced.

Thus, Vriens et al. describes two separate elements: an epoxy **25/55** that fills the cavity in the cup and a small flat glass plate **26** that is placed on the top of the cup. Applicant respectfully submits that neither of these elements describes or suggests the claimed flexible film.

In particular, the epoxy is not a flexible film as recited in Claim 1, because it is not a thin sheet of material. Rather, as clearly shown in Vriens et al. Figures 2-5, the epoxy fills the cavity in the cup. Moreover, in Vriens et al., the epoxy **25/55** is not attached to the face beyond the cavity, as recited in Claim 1. Rather, it is confined to within the cavity. The glass plate **56** of Vriens et al. is also not a flexible film, because a glass plate certainly is not flexible. Accordingly, neither Vriens et al.'s epoxy **25/55** nor Vriens et al.'s glass plate **26** describes or suggests the claimed flexible film.

Moreover, in order to ensure that the epoxy **25/55** of Vriens et al. cannot be read on the flexible film, Applicant has amended Claim 1 to also recite the optical coupling media, which may correspond to the epoxy **25/55** of Vriens et al. Since the optical coupling media is specifically recited in Claim 1, the possibility of the claimed flexible film reading on Vriens et al. epoxy **25/55** is precluded. For at least these reasons, Claim 1 is patentable over Vriens et al.

Many of the Dependent Claims Are Separately Patentable

Independent Claim 1 is the sole independent claim in the present application. Accordingly, all of the dependent claims are, by definition, patentable over Vriens et al. and should be rejoined with Claim 1. Moreover, many of the dependent claims are separately patentable. For purposes of this analysis, Applicant will only focus on elected Claims 15, 19, 20-21, 23-25 and 47.

Claim 15 recites the use of multiple optical elements in a single flexible film. Applicant respectfully submits that even if it was obvious to increase the device integration density as contended at Page 3 of the Detailed Action, it would not be obvious to provide a one-to-one correspondence between cavities, optical elements and semiconductor light emitting elements while integrating multiple optical elements into a single flexible film as recited in Claim 15. Accordingly, Claim 15 is separately patentable. Similar analysis applies

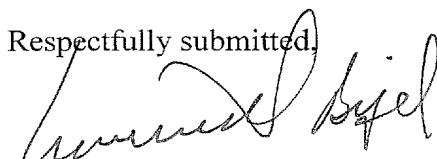
to Claims 23-25. Moreover, Claim 25 is independently patentable because Claim 25 defines an architecture that can provide red, green and blue emitters using a flexible film and multiple phosphor layers. Although it is known to use red, blue and green lights to form picture elements, there is no description or suggestion in Vriens et al. of the architecture of Claim 25.

Finally, Claims 47, 19, 20 and 21 recite another architecture wherein the multiple semiconductor light emitting elements are placed in a single cavity and a flexible film overlies the cavity and includes therein multiple optical elements. Again, even if it was desirable to increase the integration density, it would not be obvious to provide the architecture that is recited in Claims 47 and 19-21. Accordingly, these claims are independently patentable.

Conclusion

Applicant again appreciates the thorough examination and the withdrawal of all the earlier rejections. However, Applicant has now shown that Vriens et al. does not describe or suggest the claimed flexible film that includes therein an optical element, and has amended the claim to preclude the Vriens et al. cup-filling epoxy from reading on the claimed flexible film. For at least these reasons, Claim 1 is patentable over Vriens et al. Moreover, many of the dependent claims are separately patentable. Finally, in view of the clear patentability of Claim 1, Applicant respectfully requests rejoinder, examination and allowance of all of the pending claims.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,


Mitchell S. Bigel
Registration No. 29,614
Attorney for Applicants

Customer Number 20792

Myers Bigel Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627
919-854-1400
919-854-1401 (Fax)